Journal of Luminescence 76&77 (1998) 689–692

JOURNAL OF LUMINESCENCE

Subject Index

2P excitons 113

II–VI heterostructure 174
II–VI semiconductor quantum wells 120

Absorbing dielectrics 666
Actinides 548
Adiabatic passage 674
Aggregates of organic molecules 544
Aggregates 201
Amorphous solids 288
Anharmonic modes 575
Anharmonicity 636
Antenna system 197, 331
Antiferromagnets 22, 28

Bacteriochlorophyll-*a* 327
Bandwidth 230
Biexciton 75, 161, 408, 451
Bistability 455
Blue–green emission 242
Boundaries 399
Brewster reflection 72

CARS 147
Cavity quantum electrodynamics 670
Charge separation 655
Chlorophyll fluorescence 335
Circular aggregates 310
Clusters 201
Coherence 145
Coherent control 1
Coherent light pulses 130
Coherent phenomena 125
Coherent phonon states 567
Coherent phonon 6, 68, 564
Coherent plasmon 6
Coherent spectroscopy 1
Coherent transfer 331
Coherent transients 38, 60, 72
Color center 48
Confined exciton 256
Conjugated molecules 658
Conjugated polymers 474
Contrast 299
Cooperative upconversion 447
CPS theory 368
CSRS 147
CVD diamond 306
Cyclotron resonance 381

Dark states 161
Decoherence 433
Deep donor EL2 152
Defects 389
Density matrix 482
Density of states 470
Density-matrix theory 365
Dephasing 137
Differential transmission 34, 134
Diffusion 399
Dimers 530
Dislocations 560
Disorder 359
Dispersive energy transfer 498
Domain topography 22
Dual fluorescence 655
Dye molecules 365, 420, 662
Dynamics 327, 518

E–V transfer 526
Electric fields 283
Electron–molecular interaction 526, 581
Electron–phonon coupling 548
Electron–phonon interaction 34, 60, 120, 511, 534, 595, 604, 608
Electronic excitations 464, 467
Electron transfer 404, 482, 658
Elementary electron transfer 544
Energy and electron transfer 354
Energy relaxation 437
Energy transfer 193, 197, 371, 420, 460, 474, 495, 530, 595

Epitaxial films 411
Epitaxy 641
Exchange narrowing 359
Excimer 246
Excitation spectra 478
Excitation transfer 392, 411
Excited-state dynamics 447, 655
Exciton dynamics 174, 486, 595
Exciton states 437
Exciton trapping 377
Exciton–exciton annihilation 455
Exciton–phonon interaction 174, 189
Exciton–polariton 109
Excitonic luminescence rise 498
Excitonic-dimer formation 555
Exciton 86, 193, 226, 260, 359, 429, 504, 544, 591, 636, 652

F and H centers 389
Fano resonance of excited state 152
Femtosecond laser spectroscopy 90
Femtosecond luminescence spectroscopy 141, 491
Femtosecond pump and probe spectroscopy 120
Femtosecond spectroscopy 43, 226
Femtosecond up-conversion 52
Femtosecond 68, 518
Fermi–Pasta–Ulam chain 599
Fluorescence anisotropy 246
Fluorescence intensity fluctuations 263
Fluorescence line narrowing 551
Fluorescence quenching 368
Fluorescence up-conversion 64
Fluorescence 116, 145, 206
Four-wave-mixing 100
Fractal dimension 420
Free electron laser 628
Free exciton 408
Frenkel defects 591
Frenkel exciton 230, 455, 470, 486
Frenkel–Kontorova model 615

Glass dynamics 157, 283
Glass transition 295
Glasses 270, 327, 551, 619, 623, 632
Green sulphur photosynthetic bacteria 322

High-density excitons 109
Higher fullerenes 652
Hole burning 189, 234, 270, 283, 292, 322, 327, 339, 619
Holes 591
Holstein–Peierls model 567
Homogeneous broadening 571
Hot electron 221
Hot luminescence 636
Hydrogen bond dynamics 56
Hyperfine splitting 608
Hyperfine structure 681

IR absorption 152
Incoherent motion 399
Incoherent optical dynamics 498
Infrared transient absorption 256
Inhomogeneous broadening 147, 571
Interference 113
Intraband scattering 437
Intramolecular dynamics 52
Inversionless sites 292
Ion pairs 371
Ionic crystals 560

J-aggregates 359

LO–phonons 134
Lanthanides 548
Laser crystals 586
Laser-induced fluorescence 632
Lattice dynamics 540, 575, 632
Light-harvesting complexes 310, 327
Linear Stark effect 292
Liouville space 15
Liquid crystals 64
Local modes 628
Localization 193, 470
Localized states 464, 467
Localized vibration 48
Low temperatures 283

MO calculation 344
Macromolecular-metallic hybrid system 168
Magnetic circular dichroism 339
Magnetic polaron 211
Magneto-electric effects 28
Mean first passage time 197
Memories 392
Memory functions 511
Metal nanocrystal 221
Microcavities 161
Microcrystallite 230
Microemulsions 662
Microlaser 670
Microwave absorption 381
Mixing 377
Molecular aggregates 429, 437

Molecular condensates 392
Molecular defects 526, 581
Molecular probe 246
Molecular wires 658
Monolithic microcavities 670
Multiphonon processes 623
Multiphonon relaxation 371, 586
Multipolar interaction 371

NSOM 303
Nanocrystals 125, 185, 217, 256, 263
Nanoparticles 168, 234, 252
Nanostructures 495
Near-field optical microscopy 306
Near-field optics 181
Non-linear crystals 464
Non-linear optics 274
Nonlinear properties 530
Non-Markovian dephasing 1
Non-Markovian equation 433
Non-radiative relaxation 628
Nonequilibrium carriers 141
Nonequilibrium phonons 540
Nonlinear Schrödinger equations 511
Nonlinear optical response 652
Nonlinear optics 75, 104
Nonlinear spectroscopy 22
Nonlinearity 575
Nonreciprocal effects 22
Nonreciprocal optics 28
Nuclear exciton 83

One-dimensional metal complex 226
One-dimensional systems 429, 491
One-dimension 230
Optical bistability 447
Optical dephasing 234, 604
Optical line shapes 331
Optical nonlinearity 214
Optical properties 252, 416, 641
Optical response 100
Optical spectra 79
Optical transition 137
Optical-RF double resonance 681
Orbach/Raman processes 611
Organic glasses 615
Organic–inorganic heterostructure 214
Oscillatory Fano damping 555

PLZT ceramics 460
Phase transition 460
Phase-locked pulses 113
Phonon dynamics 544, 615
Phonon echo 83
Phosphorescence 385, 424
Photochromism 90
Photoionization 95
Photoluminescence 201, 395, 478, 486, 534
Photon avalanche 441
Photon echo spectroscopy 157
Photon echo 60, 72, 270, 619
Photon number state 677
Photostimulated luminescence 389, 495
Photosynthesis 310, 331, 335
Photosynthetic reaction center 344
Photosystem II reaction center 327
Photosystem 349
Piezoelectric captor 303
Plasmon–phonon coupled mode 68
Point defects 560
Polarization spectroscopy 75
Polarons 511
Polyelectrolytes 420
Polymers 377, 420
Population transfer 674
Porous glasses 385
Proteins 327, 619
Proton transfer 52
Proton tunneling 56
Pump probe 274
Pump-probe spectra 365
Pump–probe absorption spectroscopy 322
Pump–probe spectroscopy 221

Quantum aspects of solitons 599
Quantum beats 125
Quantum beats 72, 83
Quantum cavities 260
Quantum dot 185, 189
Quantum fluctuation 79
Quantum kinetics 34, 134
Quantum optics 666
Quantum particle 15
Quantum well 211, 260, 381
Quasi-particle 518

Rabi frequency 38
Radiation locking 137
Radiationless transition 404
Raman scattering 632
Raman spectroscopy 306
Random-phase approximation 79
Reaction kinetics 90
Reduced density matrix 15

Relaxation dynamics 206
Relaxation in semiconductor 141
Relaxation 636
Resolution 299
Resonant excitation 206
Resonant tip–sample distance 299
Rotary echoes 137
Rotary echo 38

Satellite 681
Scanning near-field optical microscopy (SNOM) 299
Second-harmonic generation 28
Self-localized soliton 599
Self-trapped excitons 389, 408, 491
Self-trapped hole 43, 478
Self-trapping 555, 591
Semiclassical theories 595
Semiconductor optics 104
Semiconductors 6, 95, 152, 174, 260
Semimagnetic semiconductor 211
Semimetals 6
Sensitized avalanche 441
Shear-force 303
SiO_2 238
Single crystals 395
Single-molecule spectroscopy 157, 263, 270, 274, 279, 288
Sol–gel glass 238
Sol–gel technology 217
Solitons 575
Solvation dynamics 64
Sonoluminescence 560
Special pair dimer 344
Spectral diffusion 327, 619
Spectral hole burning 95, 615
Spin-boson system 595
Spin–lattice relaxation 611
Spontaneous emission 662, 666
Squeezed phonon states 567
Strong electron–phonon coupling 567
Structural disorder 416
Superexchange 482
Superposition 433
Surface characterization 641
Surface diffusion 507
Surface effect 238
Surface plasmon 181, 221
Synchrotron radiation 83

Thermoluminescence 349
Thin films 368, 534, 641
Three-level systems 130
Time-resolved high-resolution luminescence spectroscopy 507
Time-resolved photoluminescence 416
Time-resolved spectroscopy 242
Transient hole burning 295
Transient optical absorption 464, 467
Transport of exciton 109
Transport 518
Trapped photon states 677
Trap 399
Tunnel luminescence 544
Tunneling 658
Two-photon absorption 43
Two-photon excitation 451
Two-photon micromaser 677
Two-photon spectroscopy 185
Two-photon transition 86
Two-step persistent spectral hole burning 130

Ultrafast optical measurement 48, 404
Ultrafast spectroscopy 181
Uniaxial stress 502
Unitary transformation 599
Up-conversion 116, 498

Vibronic wave packet 48, 404, 433

Water-splitting complex 349
Wave packet 564
Wave vector 230

Zeeman effect 608
Zero-field splittings 611
Zone-folded acoustic phonons 564

Journal of Luminescence 76&77 (1998) 693–694

JOURNAL OF LUMINESCENCE

Materials Index

5,5′-dimethyl-[2,2′-bipyridyl]-3,3′-diol 52

β-carotene 571, 604

Alcohol 571
Alkali halides 43, 389, 495, 502, 591
Anthryl-thiophenes 655

Barium titanate 100
BeO 467
Benzoic acid 56
Betaine-30 404
BiI_3 109

C_{60} 395
CaF_2 60, 411, 628
Cadmium selenide 534
Carbonyl compounds 385
Cas:Eu 292
$Cd_{0.95}Mn_{0.05}Te/ZnTe$ 211
Cr^{6+} 238
Cr_2O_3 28
$Cs_3Lu_2Br_9:Yb^{3+}$ 447
CsBr 526
Cu_2O 86
CuCl 75, 185, 189, 256

Dendrimers 193, 197, 246
Dibenzanthanthrene 274
Dithienylethene derivates 90
Dy^{3+} 424

Er^{3+} 116
Eu^{2+} 60
$Eu^{3+}:YAlO_3$ 681
Eu^{3+} 234
Eu_2O_3 234
Fullerenes 201, 206, 395

GaAs/AlAs superlattices 564
GaAs/AlGaAs 381
GaAs 34, 68, 104, 134, 152
GaSe 72
Glycerol 295

InAs 141
InGaN epitaxial films 242

K_2LaCL_5 548
$KEu(WO_4)_2$ 137

LaF_3 540
LiB_3O_5 464

Merbromin 295
Mn^{2+} 252

n-alkane 279
Nd^{3+} 371, 548
Nitrogen-vacancy centre 38
Noble-metal nanoparticles 181

Oligothiophene 416, 641

PPV 193, 498
PbI_2 451
Perylene dyes 368
Poly(di-n-hexylsilane) 486
Polytolans 193
Porphyrin chemical dimers 354
Porphyrin–quinone complexes 482
Porphyrin 339
Pr(2-thpy)(CO)Cl 611
Pr, Yb:YAG 441
$Pt(2\text{-thpy})_2$ 611
Pt(II)-compounds 611
$[Pt(en)_2][Pt(en)_2Cl_2](ClO_4)_4$ 491

Quinones 354

RE^{3+} 460
Rare-earth ion 551, 586, 623
Rare-earth and transition metal ions 217

Rare-gas crystals 507
Ru(II)-compounds 611

SiC 95
Silver halide 408
Solid Ar 478
$SrAl_2O_4:Er^{2+}$ 424

Tb^{3+} 608
TeO_2 116
Terrylene 279

U^{3+} 548

V^{5+} 238

Y_2O_3 234
Yb^{2+}-defects 581
Yb^{3+} 116, 447

ZnSe/ZnMgSSe 120
ZnSe 113, 306
ZnS 252